Patent claims

1. Interface module for local data networks having an inductive component (7) used as a transformer for coupling interface circuits to a data line used to connect computers, with the inductive component having a magnetic core (9) and multiple windings applied to the core,
characterized in that
the inductive component (7) used as a transformer has a magnetic core (9) made of an amorphous or nanocrystalline alloy with a permeability $\mu > 15{,}000$ and the number of turns of the windings is between 5 and 25.

2. Interface module according to claim 1,
characterized in that
the amorphous or nanocrystalline alloy has a permeability $\mu > 30{,}000$.

3. Interface module according to claim 1 or 2,
characterized in that
the alloy has the composition $Co_a(Fe_{1-c}Mn_c)_bNi_dM_eSi_xB_yC_z$, with M indicating one or more elements from the group Nb, Mo, Ta, Cr, W, Ge, and/or P and a+b+d+e+x+y+z = 100, with

| | | |
|---|---|---|
| Co | a | = 40 - 82 at% |
| Fe+Mn | b | = 3 - 10 at% |
| Mn/Fe | c | = 0 - 1 |
| Ni | d | = 0 - 30 at% |
| M | e | = 0 - 5 at% |
| Si | x | = 0 - 17 at% |
| B | y | = 8 - 26 at% |
| C | z | = 0 - 3 at% |

and 15 at% < e+x+y+z < 30 at%.

4. Interface module according to claim 3,
characterized in that
the following relationships apply:

| | |
|---|---|
| Co | a = 55 - 72 at% |
| Mn/Fe | c = 0 - 0.5 |
| Ni | d = 0 - 20 at% |
| M | e = 0 - 3 at% |
| B | y = 8 - 20 at% |
| Si | x = 1 - 18 at% |

and 20 at% < e+x+y+z < 30 at%.

5. Interface module according to claim 1 or 2,
characterized in that
the alloy has the composition $Fe_xCu_yM_zSi_vB_w$, with M indicating an element from the group Nb, W, Ta, Zr, Hf, Ti, Mo, or a combination of these and x + y + z + v + w = 100%, with

| | |
|---|---|
| Fe | x = 100% - y - z - v - w |
| Cu | y = 0.5 - 2 at% |
| M | z = 1 - 6 at% |
| Si | v = 6.5 - 18 at% |
| B | w = 5 - 14 at% |

with v + w > 18 at%.

6. Interface module according to claim 5,
characterized in that
the following relationships apply:

| | |
|---|---|
| Cu | y = 1 at% |
| M | z = 2 - 4 at% |
| Si | v = 14 - 17 at%, |

with v + w = 20 to 24 at%.

7. Interface module according to claim 1 or 2, characterized in that the alloy has the composition $Fe_xZr_yNb_zB_vCu_w$, with x + y + z + v + w = 100 at%, with

| | |
|---|---|
| Fe | x = 100 at% - y - z - v - w |
| Zr | y = 2 - 5 at% |
| Nb | z = 2 - 5 at% |
| B | v = 5 - 9 at% |
| Cu | w = 0.5 - 1.5 at% |

with y + z > 5 at% and y + z + v > 11 at%.

8. Interface module according to claim 7, characterized in that the following relationships apply:

| | |
|---|---|
| Fe | x = 83 - 86 at% |
| Zr | y = 3 - 4 at% |
| Nb | z = 3 - 4 at% |
| Cu | w = 1 at% |

with y + z > 7 at% and y + z + v > 12 to 16 at%.

9. Interface module according to claim 1 or 2, characterized in that the alloy has the composition $Fe_xM_yB_zCu_w$, with M indicating an element from the group Zr, Hf, Nb and x + y + z + w = 100 at%, with

| | |
|---|---|
| Fe | x = 100 at% - y - z - w |
| M | y = 6 - 8 at% |
| B | z = 3 - 9 at% |
| Cu | w = 0 - 1.5 at%. |

10. Interface module according to claim 9, characterized in that the following relationships apply:

Fe x = 83 - 91 at%
M y = 7 at%.

11. Interface module according to claim 1 or 2, characterized in that
the alloy has the composition $(Fe_{0.98}Co_{0.02})_{90-x}Zr_7B_{2+x}Cu_1$, with x = 0 - 3 at%, with the residual alloy component Co able to be replaced by Ni with appropriate equalization.

12. Interface module according to claim 11, characterized in that
x = 0.

Figs. 4-7: Ferrite = Ferrite